

IN THE SPECIFICATION:

Please amend the following paragraphs as indicated:

Paragraph 0013 is the paragraph beginning on page 4, line 2.

[0013] The present invention provides an efficient method, a system and an article fabricated using the method for fabricating an article using photo-activatable building material. In the present invention, light-emitting centers are fabricated as an array of photon sources whose size, wavelengths and intensity can be designed and optimized for particular applications. The details of the number of light centers and their spacings are determined as a function of the resolution required to fabricate a particular size of the article design in accordance with known requirements for photo-initiated polymerization. For example, if a thicker ~~phototresist~~ photoresist is to be utilized, more light-emitting centers with higher intensity may be added to decrease the fabrication time. Alternatively, if a higher resolution of article dimensions is required, shorter wavelength photon sources with lower intensity may be utilized to photo-polymerize a thinner photoresist layer. A three-dimensional structure of an article is fabricated by successively laying down a plurality of thin layers of photo-activated building material and photo-activating each layer before applying the next layer. The shape of the layers is typically determined by a computer software program that guides the supply unit that supplies the photo-activated building material that results in deposition of a desired thickness of the building material. It is known in the art how to, via computer, subdivide a three-dimensional view of a proposed article into a plurality of thin layers. The computer program uses the dimensions of the thin layers to determine the path for the supply unit to follow. As is known in the art, the supply unit moves incrementally upward after

application of each layer, permitting the supply unit to move horizontally, for example in a raster fashion, to, after polymerization of the layer by photo-activation, spread the next thin layer of building material. Photo-activation is accomplished by "printing" the layer with the light-emitting array, wherein the light-emitting array passes a predetermined distance over the current layer, photo-activating the layer using the light-emitting centers. When the article has been entirely fabricated and if the photo-activated polymer requires curing, the article is placed in a curing oven and heated to a predetermined temperature for a predetermined length of time. For example, when using Shipley Microposit S1800 Series Photo Resists as the photo-activated building material, the article is typically cured in accordance with a standard curing process for the using Shipley Microposit S1800 Series as is known to those skilled in the art. After curing, the article may be rinsed to remove any unpolymerized material that may be on the surface. The Shipley Microposit S1800 Series Photo Resists are positive photoresists suitable for using as photo-activatable building materials for the present invention. The Shipley Microposit S1800 Series Photo Resists are optimized for G-line (0.436 microns) exposure, are effective for broad band exposure and have high resolution process parameters. For example, Shipley Microposit S1813 has a 12.3 micrometer thickness, requires 150 mJ/cm² for polymerization ("printing"), and may be polymerized at the G-line (0.54 NA).

Paragraph 0023 is the paragraph beginning on page 12, line 7.

[0023] The fabrication printer 2 610 also includes a platform 604 that is located in a bath of liquid photo-activatable building material 608. The controller 614 sets the height of the platform at a predetermined height so that a predetermined thickness of the photo-

activatable liquid is situated on the platform ~~608~~ 604. Then the controller activates the X-Y drive 612 to scan a predetermined shape on the platform 604, which photo-activates the photo-activatable liquid that is scanned. In this manner, a layer of photo-activated polymer is provided on the platform 604. This process is repeated until the desired article is fabricated. Then, the article may be removed from the bath and where desired, cured and/or rinsed.